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7.38: Certification of Tunnel Ventilation Systems in the Metropolitan Boston Air Pollution Control District

(1) Applicability.

- (a) The requirements of 310 CMR 7.38 shall apply to the construction and operation of any tunnel ventilation system for highway projects proposed to be built in the Metropolitan Boston Air Pollution Control District, construction of which begins on or after January 1, 1991, including, but not limited to, the Central Artery/Third Harbor Tunnel project. The requirements of 310 CMR 7.38 apply in addition to requirements to implement guidelines of the Department to ensure comprehensive and systematic air quality analysis of highway projects, and all other review procedures applicable to highway projects pursuant to the State Implementation Plan (SIP), the purpose of said review to ensure the consistency of such projects with the requirements of the SIP. Tunnel ventilation systems subject to 310 CMR 7.38 are not subject to the requirements of 310 CMR 7.02.
- (b) Any tunnel ventilation system which, when constructed, is subject to a federal New Source Performance Standard or National Emission Standard for Hazardous Air Pollutants, shall be subject to such standard and shall operate in compliance with such standard.

(2) Preconstruction Certification. No person shall cause, permit or allow the construction of any tunnel ventilation system and project roadway subject to 310 CMR 7.00 without first certifying to the Department, and receiving the Department's written acceptance of such certification, that any tunnel ventilation system, project roadway and roadway network within the project area, when operated in strict accordance with its design, standard operating and standard maintenance procedure, will not:

- (a) cause or exacerbate a violation of any National Ambient Air Quality Standard, as set forth at 40 CFR 50, or a Massachusetts Ambient Air Quality Standard as set forth at 310 CMR 6.00; or
- (b) cause or exacerbate a violation of the Department's one hour ambient NO₂ guideline of 320 ug/m³; or
- (c) result in an actual or projected increase in the total amount of non-methane hydrocarbons measured within the project area when compared with the no-build alternative.

(3) Preconstruction Department Certification Process.

- (a) Any proponent of a project subject to 310 CMR 7.38 is required to submit such information sufficient for the Department to review the certification. Such information shall include, but is not limited to, the following:
 - 1. an analysis of the existing and projected non-methane hydrocarbon emissions from the project area, including the emissions from the tunnel ventilation system, the project roadway and the roadway network in the project area;
 - 2. a comparative analysis which quantifies the air quality impact within the project area predicted to occur after the project is built and the no-build alternative;

3. information concerning ventilation building heights and locations, conceptual site plan, design criteria for the proposed ventilation equipment and project roadway, standard operating procedures and standard maintenance procedures for the tunnel ventilation system;
4. an analysis of the projected vehicle miles traveled, average vehicle speeds and vehicle hours that are expected to occur within the project area when the project is completed compared with the projected vehicle miles traveled, projected average vehicle speeds, and projected vehicle hours traveled under the no-build alternative; and
5. an identification and analysis of feasible pollution prevention measures designed to reduce vehicle miles traveled including identification of the available short and long-term measures, commitments to implement said measures, and a schedule for implementing said measures.

(b) The Department shall within 30 days of receipt of a certification required by 310 CMR 7.38(2), make a determination whether all information necessary for review of said certification has been submitted. Upon making this determination, the Department shall notify the project proponent. The Department shall review the certification and shall, after notice and public hearing, accept or reject said certification in writing no later than 90 days after the Department determines that all information necessary to review the certification has been submitted. No construction on a tunnel ventilation system or project roadway shall commence until the certification has been accepted. The Department may impose such conditions on any acceptance of a certification issued pursuant to 310 CMR 7.38(3) as it deems are necessary to meet the criteria of 310 CMR 7.38(2)(a) through (c).

(4) Operating Certification.

(a) Except as provided herein, no person shall operate any tunnel ventilation system or open for general public use any project roadway which is served by a tunnel ventilation system subject to 310 CMR 7.38, without receiving written acceptance of its certification to do so from the Department as provided for in 310 CMR 7.38(3). Any person who has received written acceptance of certification to construct a tunnel ventilation system pursuant to 310 CMR 7.38(3) may commence operation of said tunnel ventilation system and open the project roadway to general public use for a period not to exceed 18 months, provided that said person submits to the Department an operating certification. Said operating certification submission shall be no earlier than 12 nor later than 15 months after the commencement of full operation of said tunnel ventilation system or opening of the project roadway for general public use. Any operating certification shall demonstrate that the operation of the tunnel ventilation system shall, at a minimum, be in strict accordance with the certification criteria set forth in 310 CMR 7.38(2)(a) through (c). and the certification accepted by the Department pursuant to 310 CMR 7.38(3) as demonstrated through actual measured emissions and traffic data or other approaches allowed by 310 CMR 7.38(8)(a).

(b) In addition to the demonstration of compliance with the certification criteria set forth in 310 CMR 7.28(2)(a) through (c) and the certification

accepted by the Department pursuant to 310 CMR 7.38(3), the operating certificate submittal shall include a contingency plan consisting of measures which could be implemented in cases of exceedence of the emission limitations in the certification. Said contingency plan shall identify available contingency measures including, but not limited to, alternative tunnel ventilation system operations and maintenance, and transportation control measures; a commitment for implementing said measures; a schedule for implementing measures on a days-to-full effectiveness basis; and an analysis of the daily air quality impact of the measures on the emissions from the tunnel ventilation system and within the project area.

(c) Any operating certification accepted by the Department pursuant to 310 CMR 7.38(4) shall remain in effect for five years from the date of acceptance and shall contain such conditions as the Department deems necessary to meet the certification criteria established in 310 CMR 7.38(2)(a) through (c). Any operating certification accepted by the Department pursuant to 310 CMR 7.38(4) shall be subject to renewal upon application to the Department. The Department shall apply the same criteria that apply to the acceptance of pre-construction certification and the initial operating certification to the renewal of an operating certification. The requirement to obtain an operating certification, or renewal thereof, shall be in addition to the certification required in 310 CMR 7.38(2).

(5) Operating Certification Department Process. The Department shall, within 30 days of receipt of an initial operating certification or renewal of an operating certification required by 310 CMR 7.38(4), make a determination whether all information necessary for review of said certification has been submitted. Upon making this determination, the Department shall notify the project proponent. The Department shall review the certification and shall, after notice and public hearing, accept or reject said certification in writing no later than 90 days after the Department determines that all information necessary to review the certification has been submitted. The Department may impose such conditions on any acceptance of a certification issued pursuant to 310 CMR 7.38(5) as it deems are necessary to meet the criteria of 310 CMR 7.38(2)(a) through (c) and of the certification accepted pursuant to 310 CMR 7.38(3).

(6) Mitigation Plan Review and Acceptance.

(a) If the Department finds, based upon a review of information submitted by the operator in support of any operating certification, and such other information as the Department has available to it, that one or more of the criteria set forth in 310 CMR 7.38(2)(a) through (c) or established in the acceptance of the certification pursuant to 310 CMR 7.38(3) through (5) are being violated, or are likely to be violated within the period for which the operating certification is valid, the operator of the tunnel ventilation system shall:

1. Implement the measures identified in the contingency plan submitted and accepted as part of the initial operating certificate pursuant to 310 CMR 7.38(4), and necessary,

2. Within four months after being notified of such a finding, submit to the Department for review and approval a mitigation plan which identifies specific measures the operator intends to implement to bring the tunnel ventilation system and associated project area into compliance with criteria set forth in 310 CMR 7.38(2)(a) through (c) and the conditions of the Department's acceptance of the certification set forth in 310 CMR 7.38(3) through (5). The mitigation plan shall at minimum contain the following:
 - a. a study that identifies the factors which are causing or contributing to the violation identified in any notice by the Department issued under 310 CMR 7.38(6);
 - b. identification and an affirmative demonstration of specific measures which will result in compliance with the criteria in 310 CMR 7.38(2)(a) through (c), and the Department's acceptance of the certification issued pursuant to 310 CMR 7.38(3) through (5).
 - c. a demonstration of adequate funding mechanisms for implementation of said measures; and
 - d. a schedule for implementing said measures.
- (b) A mitigation plan submitted pursuant to 310 CMR 7.38(6) shall include examination of measures which address the operation of the ventilation system as well as examination of measures which address operation of the tunnel roadway and roadway network within the project area. The latter shall include, but not be limited to:
 1. improvements in public transit,
 2. programs to increase the use of high occupancy vehicles,
 3. restriction of additional roads or lanes to high-occupancy vehicles,
 4. employer-based transportation demand management plans,
 5. expansion of fringe and transportation corridor parking facilities,
 6. programs to limit or restrict vehicle use in downtown areas or other areas of high emission concentration particularly during periods of peak use,
 7. ridesharing programs, and
 8. other measures to shift demand to non-automotive modes of travel or to increase vehicle occupancy rates.
- (c) The Department shall, within 30 days of receipt of the mitigation plan, make a determination that all information necessary for review of said plan has been submitted. Upon making this determination, the Department shall notify the project proponent. The Department shall review the mitigation plan and shall, after notice and public hearing, accept, or reject said plan in writing no later than 90 days after the Department determines that all information necessary to review the plan has been submitted. The Department may impose such conditions on any acceptance of the plan prepared pursuant to 310 CMR 7.38(6) as it deems are necessary to meet the criteria of 310 CMR 7.38(2)(a) through (c) and of the certification accepted pursuant to 310 CMR 7.38(3) through (5). The terms of the accepted plan shall be incorporated into the operating certification for the applicable renewal period.

(7) **Review of Operations.** If at any time the Department finds that one or more of the criteria set forth in 310 CMR 7.38(2)(a) through (c) or the criteria established in the acceptance of certification issued pursuant to 310 CMR 7.38(3) through (5) is not being met, the Department may order the operator to implement the contingency measures and to submit a mitigation plan as set forth in 310 CMR 7.38(6) to bring the operation of the tunnel ventilation system into compliance with said criteria. Any plan submission made pursuant to 310 CMR 7.38(7) shall contain the same elements as required pursuant to 310 CMR 7.38(5) and (6) as well as such other information as the Department may require.

(8) **Compliance Monitoring.** Any person who constructs and operates a tunnel ventilation system on or after January 1, 1991 shall comply with the following monitoring requirements:

(a) **Emissions monitoring.** Any person who constructs and operates a tunnel ventilation system which is subject to the requirements of 310 CMR 7.38 shall, prior to commencing operation of the tunnel ventilation system or opening the project roadway for public use, develop and submit to the Department for review and approval an "Air Emissions Monitoring Protocol" and shall install and operate emissions monitoring and recording equipment in accordance with the approved protocol. Monitoring as approved by the Department shall be required at the exhaust stacks or exhaust plenums of ventilation buildings as well as at exit portals that utilize longitudinal ventilation. The Department will consider for approval hybrid monitoring systems that incorporate elements of the federal regulations for monitoring ambient air pollution, for monitoring stationary source emissions, and for pollutant emission trading (i.e., 40 CFR Parts 58, 60, and 75) as practicable, as well as statistical analysis, computer modeling, and innovative technologies. The "Air Emissions Monitoring Protocol" may also be modified with prior written approval of the Department.

(b) **Traffic monitoring.** Any person who constructs and operates a tunnel ventilation system which is subject to the requirements of 310 CMR 7.38 shall install, operate and maintain traffic monitoring equipment within the project area, the numbers and locations of which shall be determined in consultation with the Department.

(9) **Record Keeping and Reporting.**

(a) Any person who constructs and operates a tunnel ventilation system on or after January 1, 1991 shall comply with the following record keeping and reporting requirements:

1. All records and data from the continuous emissions monitors, recorders and traffic monitors shall be maintained for a period of five years. The most recent two years of data shall be readily available for Department inspection.
2. **Emissions Reporting.** For the first year of operations monthly reports shall be filed with the Department no later than 30 days following the end of the preceding calendar month. Said monthly reports shall contain a summary of continuous monitoring data showing any excursions from allowable emission limitations contained in the Department's acceptance of the

certification. In the event any of the reported data shows an excursion of the emission limitations set forth in the acceptance of certification, a written explanation of any excursion shall be included. Evidence of each calibration event on the monitoring devices shall be included in such monthly reports.

3. **Traffic Reporting.** For the first year of operation monthly reports shall be filed with the Department no later than 30 days following the end of the preceding calendar month. Said monthly reports shall contain a summary of average daily and peak hour counts of vehicle miles traveled as well as average daily and peak hour vehicle speeds and vehicle hours traveled as identified through the traffic monitoring network established pursuant to 310 CMR 7.38(8).

4. **Tunnel Ventilation System Maintenance.** For the first year of operations monthly reports shall be filed with the Department no later than 30 days following the end of the preceding calendar month. Said monthly reports shall contain a summary of routine maintenance checks performed, repairs of ventilation equipment, amount of time during which ventilation equipment was not operating in accordance with standard operating procedures and measures taken to remedy this situation.

(b) After the first year of operation, the reports required by 310 CMR 7.38(9) shall be submitted to the Department on a quarterly basis, with the first such quarterly report being due no later than 30 days after the end of the quarter and every three months thereafter.

(10) **Removal of Air Pollution Control and Monitoring Equipment.** No person shall cause, suffer, allow, or permit the removal, alteration or shall otherwise render inoperative any air pollution control equipment or equipment used to monitor emissions or operations which has been installed as a requirement of 310 CMR 7.38, other than for routine maintenance periods or unexpected and unavoidable failure of the equipment, provided that the Department is notified of such failure. For the purpose of 310 CMR 7.38(10), the term, air pollution control equipment, shall mean the tunnel ventilation system as defined in 310 CMR 7.00.

(11) **Public Participation.** The purpose of the public hearings provided for in 310 CMR 7.38 shall be to allow any person to make their views known to the Department. Such a hearing shall not be adjudicatory in nature, but shall be in the nature of a public forum for the presentation of any comment that may be relevant to the consideration of a request for acceptance of pre-construction certification, operating certification, renewal of operating certification or acceptance of a mitigation plan. Any decision related to the review and acceptance or rejection of a preconstruction certification; review, acceptance or rejection of a request for operating certification; review, acceptance or rejection of the renewal of an operating certification; or review, acceptance or rejection of a mitigation plan in accordance with the provisions of 310 CMR 7.38, is not an adjudicatory proceeding within the meaning of M.G.L. c. 30A.